

REMARKS

Claim Rejections based upon 35 USC 102(e) and 103(a)

Claims 1, 2, 3, 5, 8 to 12, 14, 17, and 18 stand rejected as anticipated by Koyanagi et al (US Patent 6,785,090). Claims 7 and 16 stand rejected as unpatentable over Koyanagi. While the Applicant disagrees with these rejections, it is noted that Claims 4 and 13 are objected to as allowable if rewritten in independent form including all the limitations of the base claim and any intermediate claims. Claim 1 has been amended to incorporate the limitations of Claim 4. Claim 4 has been canceled.

1. (currently amended) A disk mounting hub for mounting a disk having opposite parallel faces between a disk outside diameter and a coaxial disk inside diameter defining a central opening therethrough, wherein said disk mounting hub comprises:

a cylindrical hub body defining a hub outside diameter disposed along a central axis;

a cylindrical disk mounting member disposed coaxial with said central axis at one end of said body, defining the mounting member inside diameter extending proximally from said one end of said body, and sized to be received through said disk opening, and;

a coaxial hub face extending about said mounting member, said coaxial hub face defining a conical surface of revolution symmetrical about said central axis, that is disposed at an oblique hub face angle Ω relative to said central axis; and

wherein said interior central portion of said disk bends toward said conical surface of said coaxial hub face at said oblique hub face angle Ω and away from parallel to the remaining exterior portion of said disk, while said remaining exterior portion of said disk remains disposed within an acute disk conning angle limit Φ_{min} relative to a perpendicular to said central axis.

4. (canceled)

Claim 1 now incorporates the limitations of Claim 4, and is therefore allowable. Claims 2, 3, 5, 7, 8 to 14, 17 and 18 are dependent upon Claim 1, and inherit its limitations. These Claims are therefore allowable. Consequently, the Applicant requests that the Examiner remove the rejections from these Claims.

New Claims 26 to 37 have been added, with the independent Claim 26 being Claim 13 rewritten in independent form and incorporating the limitations of Claims 1, and 10 to 13. Claim 13 was objected to as allowable if rewritten to incorporate the limitations of the base claim 1 and the intervening claims 10 to 12 creating Claim 26.

26. (New) *A hard disk drive, including:*

a disk mounting hub for mounting a disk having opposite parallel faces between a disk outside diameter and a coaxial disk inside diameter defining a central opening therethrough, wherein said disk mounting hub comprises:

a cylindrical hub body defining a hub outside diameter disposed along a central axis;

a cylindrical disk mounting member disposed coaxial with said central axis at one end of said body, defining the mounting member inside diameter extending proximally from said one end of said body, and sized to be received through said disk opening, and;

a coaxial hub face extending about said mounting member, said coaxial hub face defining a conical surface of revolution symmetrical about said central axis, that is disposed at an oblique hub face angle Ω relative to said central axis; and

wherein said interior central portion of said disk bends toward said conical surface of said coaxial hub face surface at said oblique hub face angle Ω and away from parallel planarity with the remaining exterior portion of said disk,

while said remaining exterior portion of said disk remains disposed within an acute disk conning angle limit Φ_{min} , relative to a perpendicular to said central axis;

wherein said disk mounting hub receives said disk perpendicular to said central axis and fitted with said disk opening around said cylindrical disk mounting member with one of said faces proximal and adjacent to said coaxial hub face;

wherein a clamping force F is applied and distributed toward said coaxial hub face from an opposite of said face over an interior central portion of said opposite face;

wherein said interior central portion of said disk bends toward said conical surface of said coaxial hub face surface at said oblique hub face angle Ω and away from parallel planarity with the remaining exterior portion of said disk, while said remaining exterior portion of said disk remains disposed within an acute disk conning angle limit Φ_{min} relative to a perpendicular to said central axis.

Consequently, Claim 26 is allowable. The remaining Claims 27 to 37 are essentially the remaining Claims of the first claim tree. They have been rewritten to be dependent upon this base claim, and as such include the limitations of Claim 26. Consequently, they are also allowable.

CONCLUSION

All of the amendments Claims of this application have been made for the purpose of clarifying the invention and do not represent the introduction of new matter.

The Applicant submits that the claims all define novel subject matter that is nonobvious. Therefore, allowance of these claims is submitted to be proper and is respectfully requested.

Applicant invites the Examiner to contact Applicant's representative as listed below for a telephonic interview if so doing would expedite the prosecution of the application.

Very respectfully submitted,

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